

NCDOT Pavement Marking Asset Management Program

2004 Traffic Engineering Conference
for Operations and Safety

Traffic Control, Marking & Delineation Unit

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WHAT ARE THE GOALS OF THE PROGRAM?

- Safer Roadways
- Pavement Marking Life Cycle Analysis over 7 years
- Quality Pavement Markings
- Efficient Maintenance of Pavement Markings
- Effective decision making
- Budgeting Decisions based on statistical data
- Statewide Pavement Marking Inventory System
- Getting prepared for FHWA minimum retroreflectivity levels

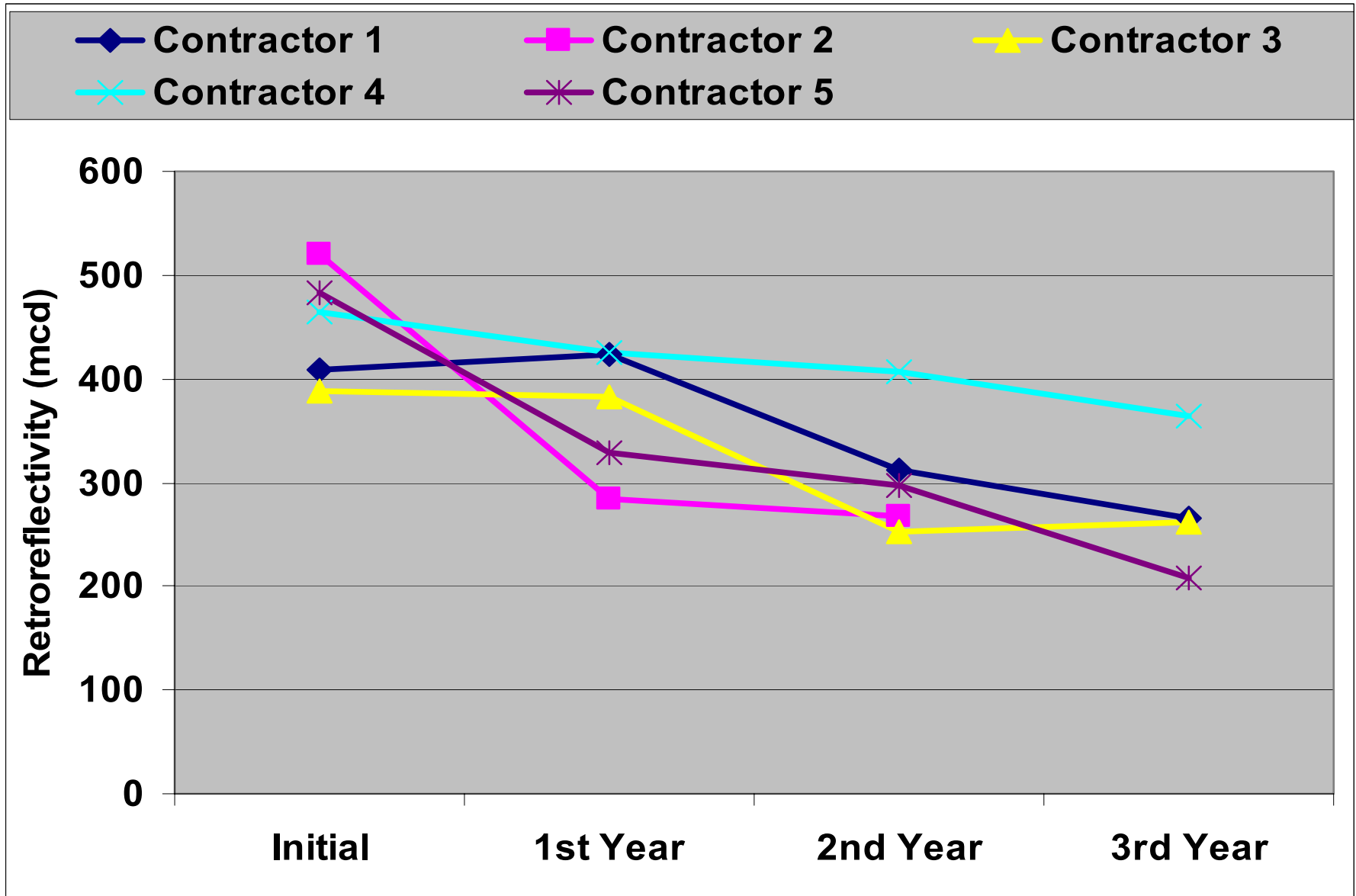


WHAT HAVE WE ACCOMPLISHED SO FAR?

- Measured a total of 3500 line miles
- 11 Installing Contractors
- 5 Pavement Marking Materials
- 3 Reflective Media Types
- 14 Divisions
- Traffic Volumes ranging from 200 to 102,000 ADT



INSTALLING CONTRACTORS



TYPES OF MATERIALS MEASURED

- Polyurea
- Extruded Thermoplastic
- Sprayed Thermoplastic
- Epoxy
- Paint

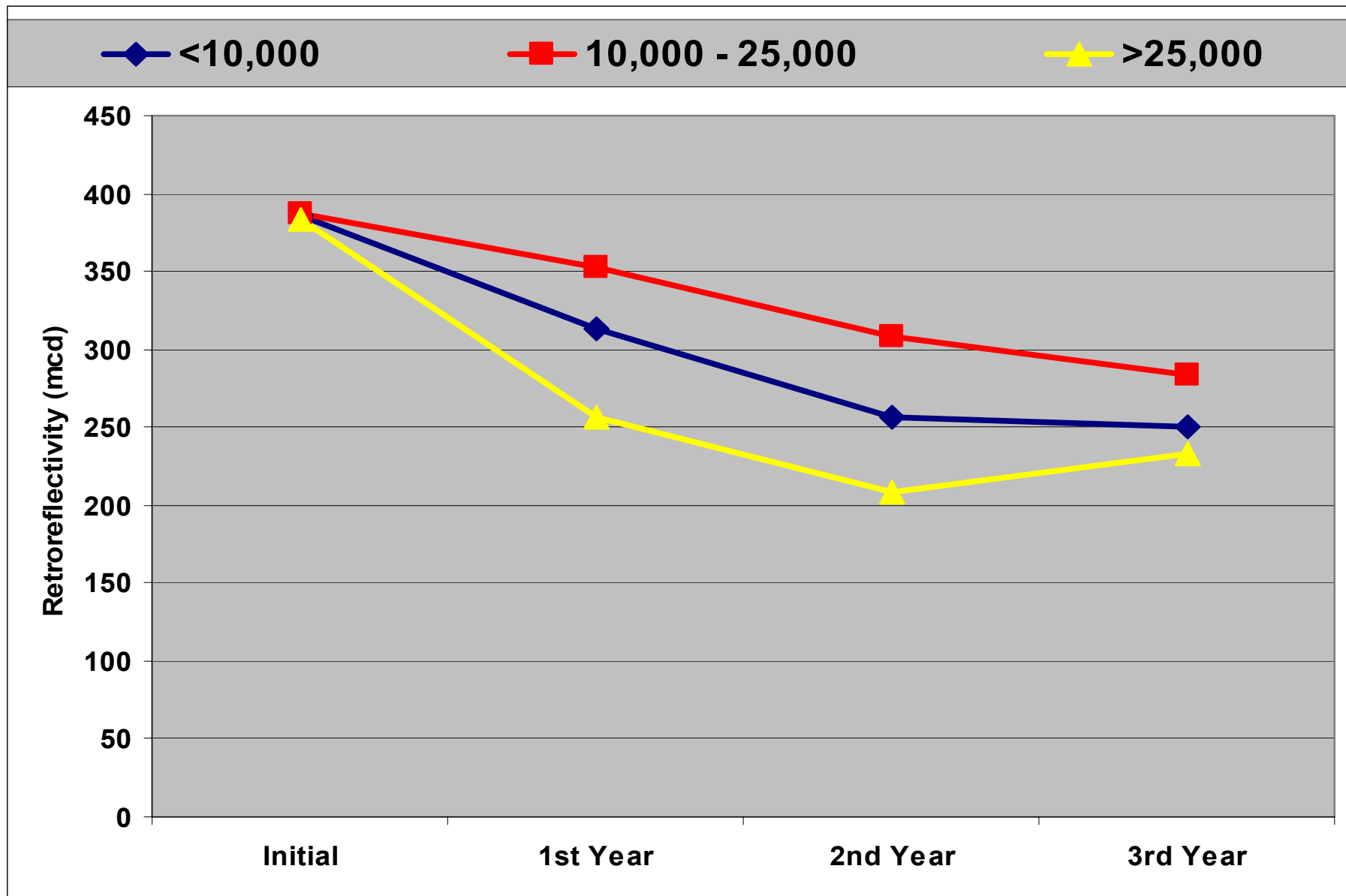


TYPES OF REFLECTIVE MEDIA MEASURED

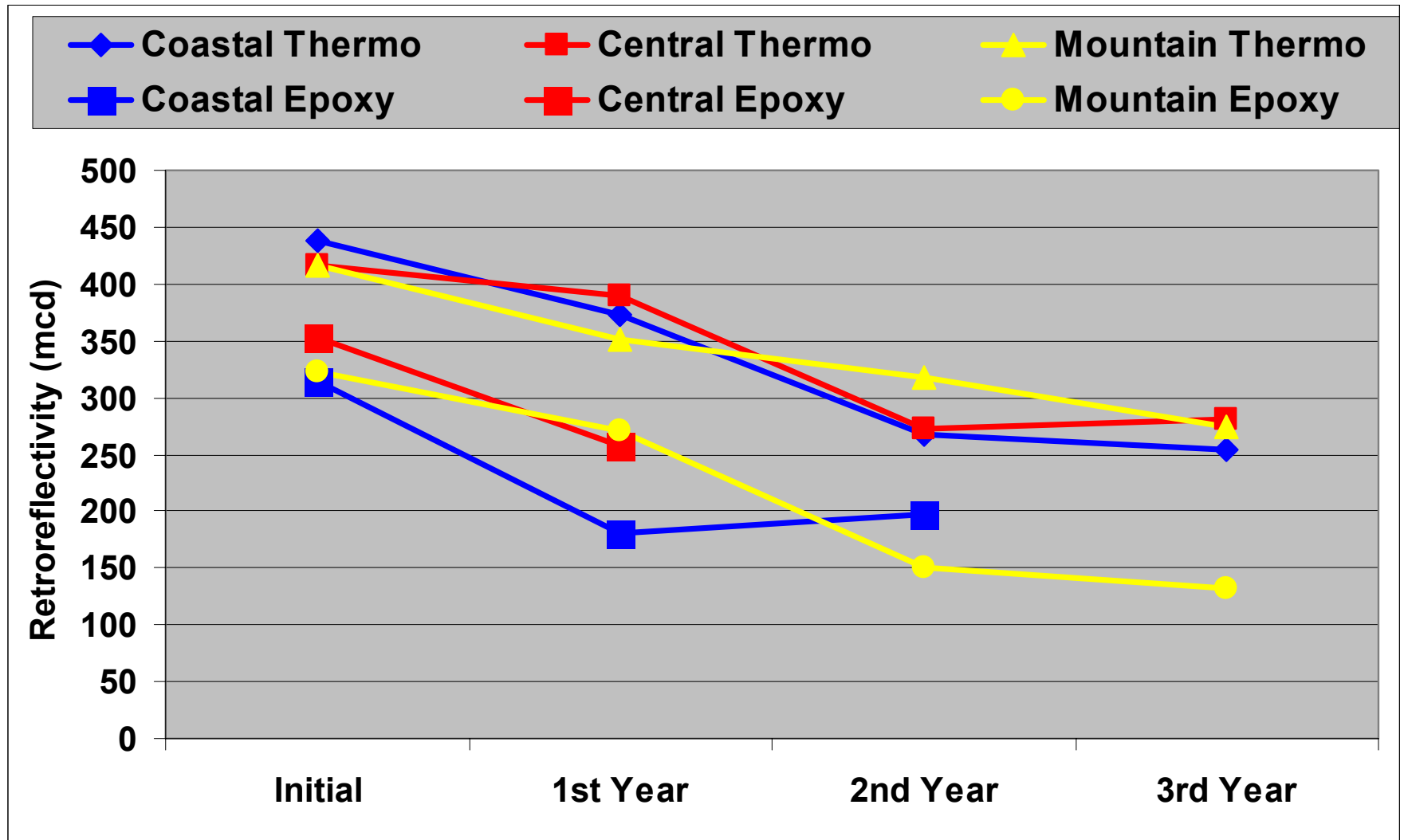
- Standard Bead
- Big Bead
- Highly Reflective Element



TRAFFIC VOLUMES



REGIONAL



HOW CAN THIS PROGRAM BENEFIT YOU?

- Taxpayers
- Motorists
- Municipalities
- NCDOT employees



TAXPAYER BENEFITS

- Appropriate pavement marking decisions = Less maintenance
- QC/QA Program = Better quality pavement marking statewide
- Increase knowledge = Better pavement marking choices statewide
- Inventory System = More efficient pavement marking maintenance plan statewide



BENEFITS TO MOTORISTS

- Safer Roadways
- Less installations = less inconvenience & cost
- Better quality pavement marking = Better delineation (with the older driver and wet night reflectivity in mind)



BENEFITS TO MUNICIPALITIES

- NCDOT knowledge can be shared to allow municipalities to make better decisions



NCDOT EMPLOYEE BENEFITS

- Better decision making when determining which roads need to be re-striped
- More money left over for other maintenance issues
- Better quality pavement marking in your Division
- Better budgeting tools
- Prepared for FHWA minimum retroreflectivity levels





DATA DRIVEN



Cost/ Foot	Materials	Surface	Bead	ADT Range	Line	1 Year % Drop	Initial	1 Year	2 Year	3 Year	4 Year	5 Year	Incipient Failure
0.37	Epoxy	Concrete	Standard	>25,000	WE	19%	340	275	223	180	146	-	150
					WS	-	-	-	-	-	-	-	150
					YE	0%	210	210	-	-	-	-	100
0.49	Epoxy	Concrete	Standard	>25,000	WE	15%	343	292	248	211	179	152	150
					WS	18%	284	234	192	157	129	-	150

Cost/ Foot	Materials	Surface	Bead	ADT Range	Line	1 Year % Drop	Initial	1 Year	2 Year	3 Year	4 Year	5 Year	Incipient Failure	
0.55	Thermo	Asphalt	Large	>25,000	WS	31%	513	352	243	168	116	-	150	
Material	Surface	Bead	ADT Range	Line	Initial/ 1 Year	1 Year/ 2 Year	2 Year/ 3 Year	3 Year/ 4 Year	4 Year/ 5 Year	Sum R	R Averag e	R _u	Incipient Failure	Cost/ Foot
Thermo	Asphalt	Large	>25,000	WS	433	298	206	142	-	1078	269	119	150	\$0.55

0.83	Thermo	Asphalt	Standard	>25,000	WE	16%	441	370	311	261	219	184	150
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DATABASE



Sample: General Contractor Performance

Report to Print <input type="radio"/> All Contractors <input checked="" type="radio"/> <div>Select Single Contractor</div>	<div>Print Preview</div> <div>Print</div> <div>Close</div>
<p>To print the directory page for only one Contractor, select the Contractor name from the list below</p> <div><div>Contractor</div><div>Boggs Paving, Inc. Clark Pavement Marking, Inc. Denville Line Painting, Inc. Highway Valets, Inc. Ledbetters Pavement Marking Olgesby Construction, Inc. Peek Pavement Marking, Inc.</div></div>	



DATABASE



Sample: Contractor /Material Performance

Contractor Report by Individual Contractor

<i>Contractor</i>	<i>Line</i>	<i>Surface</i>	<i>Material</i>	<i>Beads</i>	<i>Avg of Initial RL Readings</i>	<i>Avg of 6 Month RL Readings</i>	<i>Avg of 1st Year RL Readings</i>	<i>Avg Cost Per Foot</i>
Clark Pavement Marking, Inc.								
<i>White Edge</i>								
		Asphalt	Hot Spray Thermo	Standard	0	246	317	\$0.19
		Asphalt	Thermo	Standard	408	368	424	\$0.33
<i>White Skip</i>								
		Asphalt	Hot Spray Thermo	Standard	0	260	358	\$0.19
		Asphalt	Thermo	Standard	234	381	402	\$0.41
<i>Yellow Edge</i>								
		Asphalt	Hot Spray Thermo	Standard	0	192	221	\$0.19
		Asphalt	Thermo	Standard	305	263	312	\$0.33



DATABASE



Sample: Contractor/Material Performance at Division Level

Report to Print <input type="radio"/> All Division <input checked="" type="radio"/> <div>Select Single Division</div>	<div>Print Preview</div> <div>Print</div> <div>Close</div>									
<p>To print the directory page for only one Division, select the Division # from the list below</p> <table border="1"><thead><tr><th>Division</th></tr></thead><tbody><tr><td>1</td></tr><tr><td>2</td></tr><tr><td>3</td></tr><tr><td>4</td></tr><tr><td>5</td></tr><tr><td>6</td></tr><tr><td>7</td></tr><tr><td>8</td></tr></tbody></table>		Division	1	2	3	4	5	6	7	8
Division										
1										
2										
3										
4										
5										
6										
7										
8										



DATABASE



Sample: Report Selection by Division

Contractor Summary Report by Division

Note: Measurements were NOT taken if there is a zero (0) in the RL Average column.

<u>Contractor</u>	<u>Line</u>	<u>Surface</u>	<u>Material</u>	<u>Beads</u>	<u>Avg of Initial RL Readings</u>	<u>Avg of 6 Month RL Readings</u>	<u>Avg of 1st Year RL Readings</u>	<u>Avg Cost Per Foot</u>
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Division: 7

Clark Pavement Marking, Inc.

White Edge

Asphalt	Thermo	Standard	427	364	410	\$0.28
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White Skip

Asphalt	Thermo	Standard	467	360	350	\$0.36
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Yellow Edge

Asphalt	Thermo	Standard	331	236	297	\$0.28
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Roadmark Corporation

White Edge

Asphalt	Paint	Standard	271	235	208	\$0.08
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Concrete	Paint	Standard	204	172	139	\$0.08
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White Skip

Concrete	Paint	Standard	200	189	148	\$0.08
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Yellow Center

Asphalt	Paint	Standard	170	172	190	\$0.08
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Yellow Edge

Concrete	Paint	Standard	198	175	171	\$0.08
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DATABASE



Sample: Report Selection

Division	Type of Line	Color	Surface Material	Material Type	ADT	Beads	Contractor	Cost
<div><div><input type="radio"/> Division 1</div><div><input type="radio"/> Division 2</div><div><input type="radio"/> Division 3</div><div><input type="radio"/> Division 4</div></div> <div><div><input type="radio"/> Division 5</div><div><input type="radio"/> Division 6</div><div><input checked="" type="radio"/> Division 7</div><div><input type="radio"/> Division 8</div></div> <div><div><input type="radio"/> Division 9</div><div><input type="radio"/> Division 10</div><div><input type="radio"/> Division 11</div><div><input type="radio"/> Division 12</div></div> <div><div><input type="radio"/> Division 13</div><div><input type="radio"/> Division 14</div></div>								

Record: 1 of 220

WHAT CAN YOU DO TO HELP?

- Inform Precision Scan or Traffic Control Unit of any projects you would like to have measured
- Cooperate with Precision Scan when they call you to solicit information on existing and potential projects
- Contact Traffic Control Unit with type of information you need to help manage your pavement marking programs



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